

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-20 (canceled)

Claim 21 (previously presented): A high efficiency switching amplifier amplifying a reference input signal, for digitally processing electric power from a direct current supply thereof to a loudspeaker which has a positive terminal and a negative terminal, the switching amplifier comprising:

a first transformer-isolated switching power converter comprising a first power-transferring transformer and bi-directional switches for supplying a first voltage proportional to the reference input signal to the positive terminal of the loudspeaker when the amplitude of the reference input signal is positive;

a second transformer-isolated switching power converter comprising a second power-transferring transformer and bi-directional switches for supplying a second voltage proportional to the reference input signal to the negative terminal of the loudspeaker when the amplitude of the reference input signal is negative; and

a pulse-width modulation controller for controlling the operation of the bi-directional switches of the first and second transformer-isolated switching power converters in such a manner that when the first transformer-isolated switching power converter is active during the positive portion of the reference input signal, the bi-directional switches of the second isolated

switching power converter provide a return path for the first transformer-isolated switching power converter's current to and from the loudspeaker and when the second transformer-isolated switching power converter is active during the negative portion of the reference input signal, the bi-directional switches of the first transformer-isolated switching power converter provide a return path for the second transformer-isolated switching power converter's current to and from the loudspeaker.

Claim 22 (previously presented): The high efficiency switching amplifier of claim 21 wherein the bi-directional switches of the first and second transformer-isolated switching power converters are metal-oxide-semiconductor field-effect transistors.

Claim 23 (previously presented): The high efficiency switching amplifier of claim 21 wherein the first and second transformer-isolated switching power converters are selected from a group of converters comprising a forward converter, a push-pull converter, a half-bridge converter, an asymmetrical half-bridge converter, and a full-bridge converter.

Claim 24 (canceled)

Claims 25-39 (canceled)

Claim 40 (previously presented): The high efficiency switching amplifier of claim 21, wherein the first power-transferring transformer comprises a first primary winding and a first secondary winding, wherein the second power-transferring transformer comprises a second

primary winding and a second secondary winding, and wherein the bi-directional switches connected to the first and second secondary windings share a ground reference.

Claim 41 (previously presented): The high efficiency switching amplifier of claim 40, wherein the loudspeaker is configured to be connected to the first and second secondary windings.

Claim 42 (previously presented): The high efficiency switching amplifier of claim 21, wherein the first power-transferring transformer comprises a first primary winding and a first secondary winding, wherein the second power-transferring transformer comprises a second primary winding and a second secondary winding, and wherein a node connected to the first and second secondary windings is without a direct current voltage with reference to a ground reference.

Claim 43 (previously presented): The high efficiency switching amplifier of claim 21, wherein a voltage associated with the direct current supply is modulated by the reference input signal and transmitted to the loudspeaker through the first and second power-transferring transformers without being converted into a direct current voltage.

Claim 44 (previously presented): The high efficiency switching amplifier of claim 21, wherein the first power-transferring transformer is configured to electrically isolate the first transformer-isolated switching power converter from the second transformer-isolated switching power converter.

Claim 45 (previously presented): The high efficiency switching amplifier of claim 21, wherein the second power-transferring transformer is configured to electrically isolate the second transformer-isolated switching power converter from the first transformer-isolated switching power converter.

Claim 46 (new): A switching amplifier, comprising:

- a pulse-width modulation controller;
- a first bidirectional switch connected to the pulse-width modulation controller;
- a second bidirectional switch connected to the pulse-width modulation controller;
- a first transformer comprising a primary winding and a secondary winding, the primary winding of the first transformer being connected to the first bidirectional switch;
- a second transformer comprising a primary winding and a secondary winding, the primary winding of the second transformer being connected to the second bidirectional switch, the secondary winding of the second transformer being connected to the secondary winding of the first transformer;
- a third bidirectional switch connected to the secondary winding of the first transformer;
- a fourth bidirectional switch connected to the secondary windings of the first and second transformers;
- a fifth bidirectional switch connected to the third bidirectional switch, the fourth bidirectional switch, and the secondary windings of the first and second transformers; and
- a sixth bidirectional switch connected to the fourth bidirectional switch, the fifth bidirectional switch, and the secondary windings of the first and second transformers.

Claim 47 (new): A switching amplifier, comprising:

a pulse-width modulation controller;

a first bidirectional switch connected to the pulse-width modulation controller;

a second bidirectional switch connected to the pulse-width modulation controller;

a first transformer comprising a primary winding and a secondary winding, the primary winding of the first transformer being connected to the first bidirectional switch;

a second transformer comprising a primary winding and a secondary winding, the primary winding of the second transformer being connected to the second bidirectional switch;

a third bidirectional switch connected to the secondary winding of the first transformer;

a fourth bidirectional switch connected to the secondary winding of the second transformer and the third bidirectional switch;

a fifth bidirectional switch connected to the secondary winding of the first transformer, the third bidirectional switch, and the fourth bidirectional switch; and

a sixth bidirectional switch connected to the secondary winding of the second transformer, the fifth bidirectional switch, the third bidirectional switch, and the fourth bidirectional switch.

INTERVIEW SUMMARY UNDER 37 CFR §1.133 AND MPEP §713.04

A telephone interview in the above-reference case was conducted on June 26, 2006 between the Examiner and the Applicant's undersigned representative. The non-final office action mailed on March 24, 2006 was discussed. Specifically, the rejections of claims 21-23 and 43-45 in view of U.S. Patent No. 6,646,548 to Dornfeld were discussed. The Applicant wishes to thank the Examiner for his time and attention in this case.